SANTA CRUZ BIOTECHNOLOGY, INC.

PITPα/β (B-9): sc-398050

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The lipid binding proteins known as phosphatidylinositol transfer proteins (PITP) facilitate the formation of phosphatidylinositol derived second messenger molecules, which are related to the phospholipase C and phosphoinositide 3-kinase pathways. PITP are ubiquitously expressed proteins that transfer phosphatidylinositol (PI) and phosphatidylcholine (PC) between membranes enriched in PI or PC to membranes that are deficient in PI or PC. PITP mobilizes PI from the endoplasmic recticulum and regulates the release of PI from stored vesicles in the Golgi network. In mammalian cells, three smaller forms of soluble PITP are present, designated PITP α, β and retinal degeneration B (rdgB) β. The gene encoding human rdgB β maps to chromosome 11q13.3, a region that contains several retinopathy loci, which makes the H-rdgB β gene a candidate for several inherited retinal degenerative diseases.

REFERENCES

1. Guo, J. and Yu, F.X. 1997. Cloning and characterization of human homologue of *Drosophila* retinal degeneration B: a candidate gene for degenerative retinal diseases. Dev. Genet. 20: 235-245.
2. Monaco, M.E., et al. 1998. Evidence that mammalian phosphatidylinositol transfer protein regulates phosphatidylcholine metabolism. Biochem. J. 335: 175-179.
3. Viscardi, R.M. and Strauss, K.A. 1999. Developmental changes in phosphatidylinositol transfer protein concentration and phospholipid transfer activities in rat type II cells. Exp. Lung Res. 25: 561-576.
4. Aikawa, Y., et al. 1999. Involvement of PITPnm, a mammalian homologue of *Drosophila* rdgB, in phosphoinositide synthesis on Golgi membranes. J. Biol. Chem. 274: 20569-20577.

CHROMOSOMAL LOCATION

Genetic locus: PITPNA (human) mapping to 17p13.3, PITPNB (human) mapping to 22q12.1; Pitpna (mouse) mapping to 11 B5, Pitpnb (mouse) mapping to 5 F.

SOURCE

PITPα/β (B-9) is a mouse monoclonal antibody raised against amino acids 1-270 representing full length PITPα of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PITPα/β (B-9) is available conjugated to agarose (sc-398050 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-398050 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398050 PE), fluorescein (sc-398050 FITC), Alexa Fluor® 488 (sc-398050 AF488), Alexa Fluor® 546 (sc-398050 AF546), Alexa Fluor® 594 (sc-398050 AF594) or Alexa Fluor® 647 (sc-398050 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398050 AF680) or Alexa Fluor® 790 (sc-398050 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PITPα/β (B-9) is recommended for detection of PITPα and PITPβ of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PITPα/β (B-9) is also recommended for detection of PITPα and PITPβ in additional species, including canine and porcine.

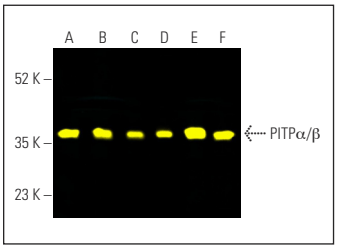
Molecular Weight of PITPα/β: 35 kDa.

Positive Controls: ECV304 cell lysate: sc-2269, U-251-MG whole cell lysate: sc-364176 or HeLa whole cell lysate: sc-2200.

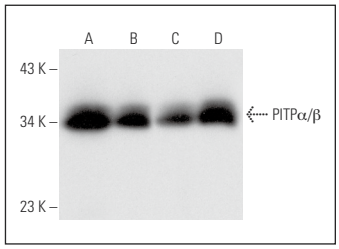
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PITPα/β (B-9) Alexa Fluor® 488: sc-398050 AF488. Direct fluorescent western blot analysis of PITPα/β expression in HeLa (**A**), U-251-MG (**B**), MOLT-4 (**C**), IMR-32 (**D**), PC-12 (**E**) and A549 (**F**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



PITPα/β (B-9): sc-398050. Western blot analysis of PITPα/β expression in ECV304 (**A**), HeLa (**B**), IMR-32 (**C**) and U-251-MG (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Carrillo, N.D., et al. 2025. Lipid transfer proteins and a PI4-kinase initiate nuclear phosphoinositide signaling. bioRxiv. E-published.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.